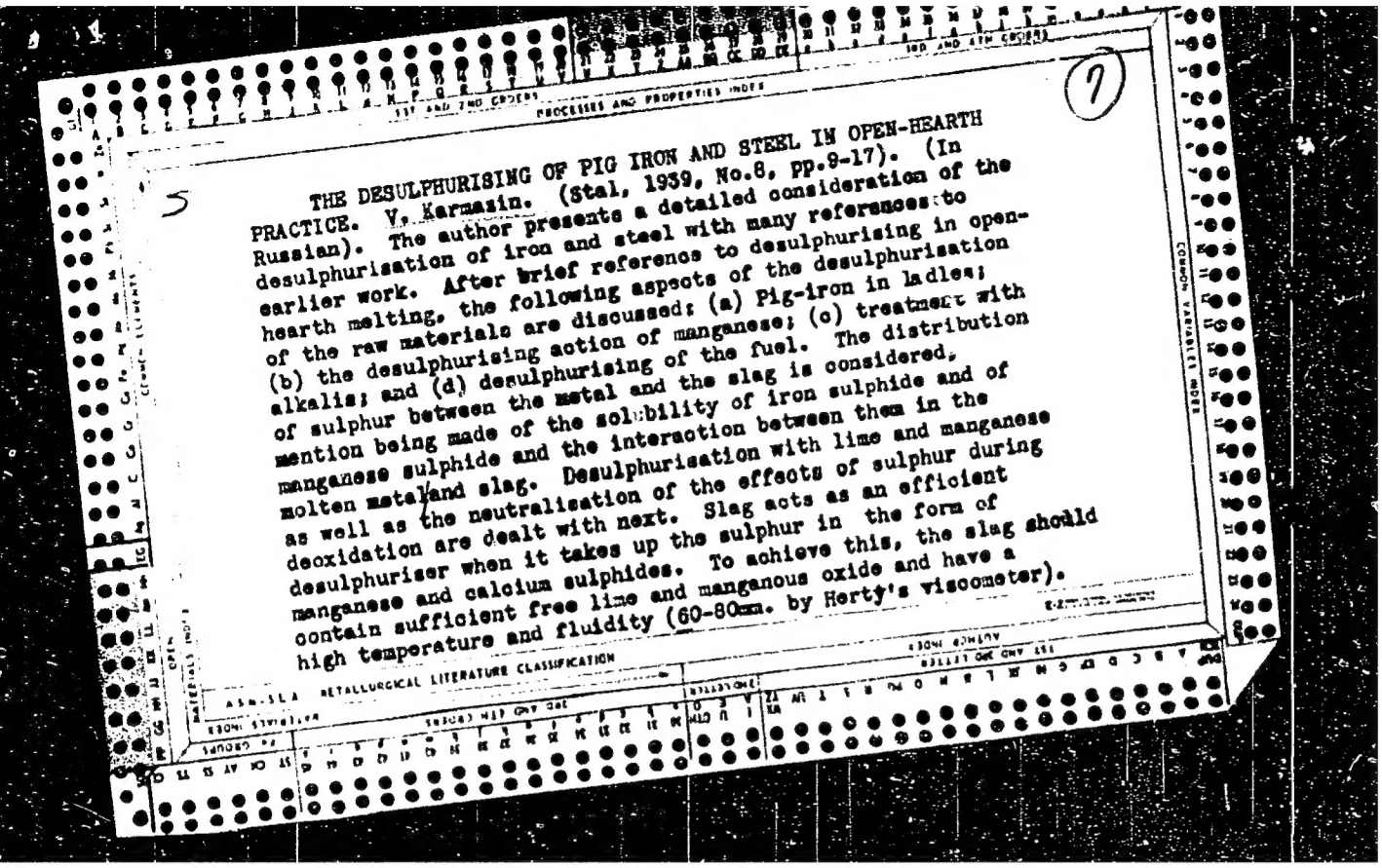
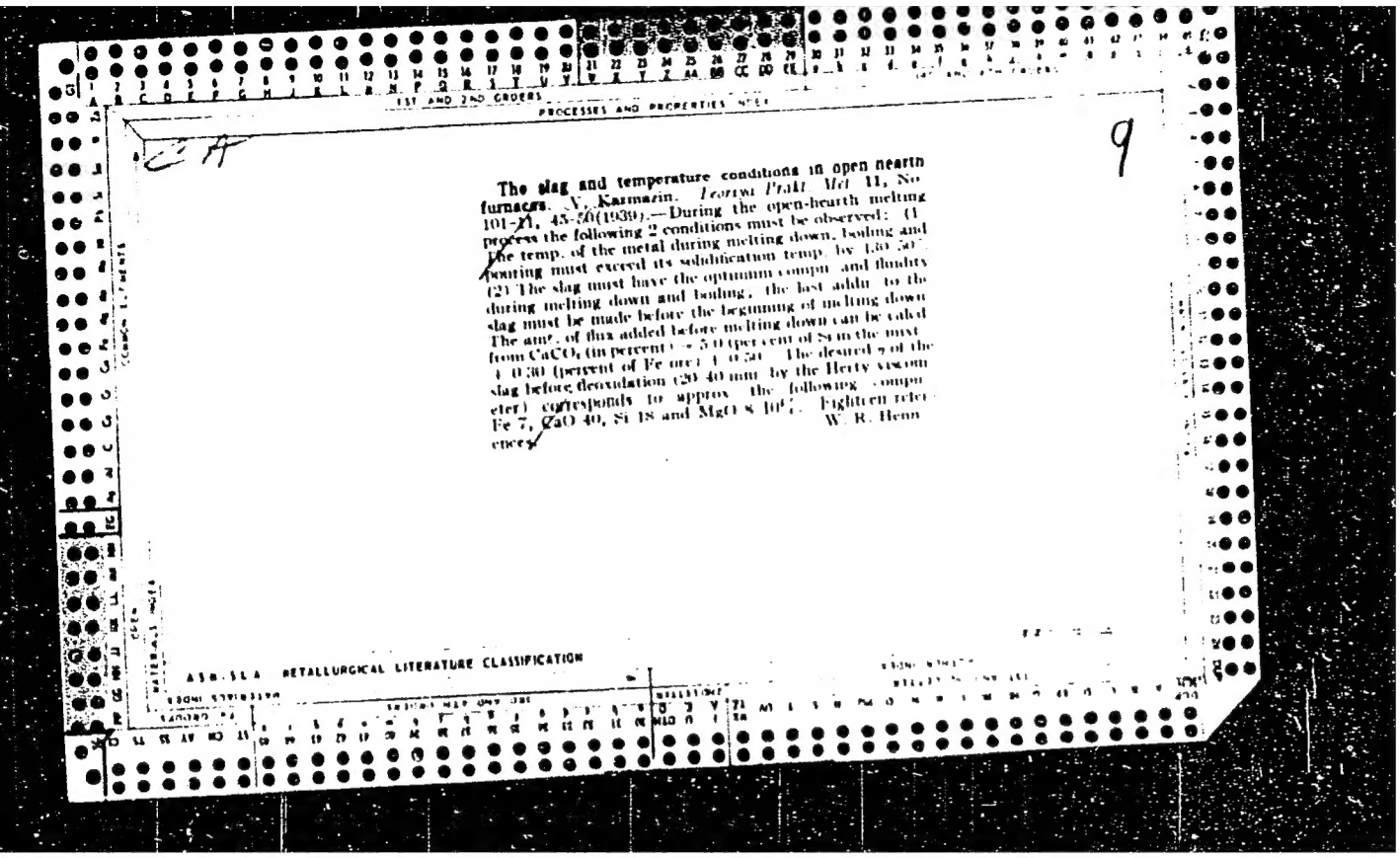


THE DESULPHURISING OF PIG IRON AND STEEL IN OPEN-HEARTH PRACTICE. V. Karmasin. (Stal, 1939, No.8, PP.9-17). (In Russian). The author presents a detailed consideration of the desulphurisation of iron and steel with many references to earlier work. After brief reference to desulphurising in open-hearth melting, the following aspects of the desulphurisation of the raw materials are discussed: (a) Pig-iron in ladles; (b) the desulphurising action of manganese; (c) treatment with alkalis; and (d) desulphurising of the fuel. The distribution of sulphur between the metal and the slag is considered, mention being made of the solubility of iron sulphide and of manganese sulphide and the interaction between them in the molten metal and slag. Desulphurisation with lime and manganese as well as the neutralisation of the effects of sulphur during deoxidation are dealt with next. Slag acts as an efficient desulphuriser when it takes up the sulphur in the form of manganese and calcium sulphides. To achieve this, the slag should contain sufficient free lime and manganous oxide and have a high temperature and fluidity (60-80mm. by Herty's viscometer).

The normal distribution coefficient of sulphur between metal and slag is 8, but this may fall to less than 4 if conditions are unfavourable. The author derives a number of equilibrium and solubility constants, which throw some light on the mechanism of desulphurisation.



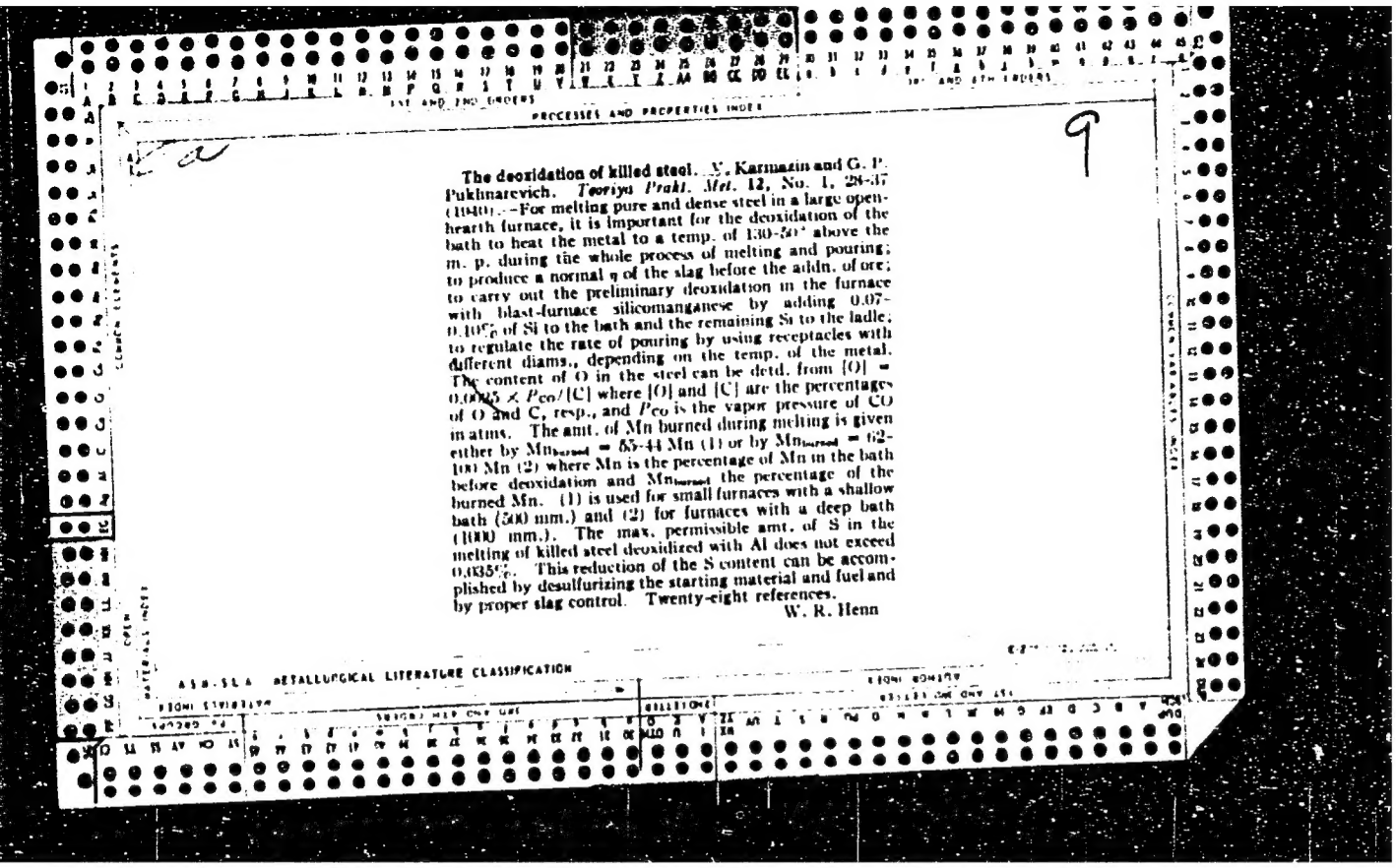
1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES NEXT

9

The slag and temperature conditions in open hearth furnaces. V. Karmazin. *Tsvetnye Metal.* 11, No 101-21, 45-50(1939).—During the open-hearth melting process the following 2 conditions must be observed: (1 The temp. of the metal during melting down, boiling and pouring must exceed its solidification temp. by 150-50° (2) The slag must have the optimum compn. and fluidity during melting down and boiling; the last addn. to the slag must be made before the beginning of melting down The amt. of flux added before melting down can be calcd from $CaCO_3$ (in percent) = 5.0 (per cent of Si in the mixt + 0.30 (percent of Fe ore) + 0.50. The desired compn of the slag before decoulation (20-40 min. by the Herty viscosimeter) corresponds to approx. the following compn: Fe 7, CaO 40, Si 18 and MgO 8-10%. Eighteen references. W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



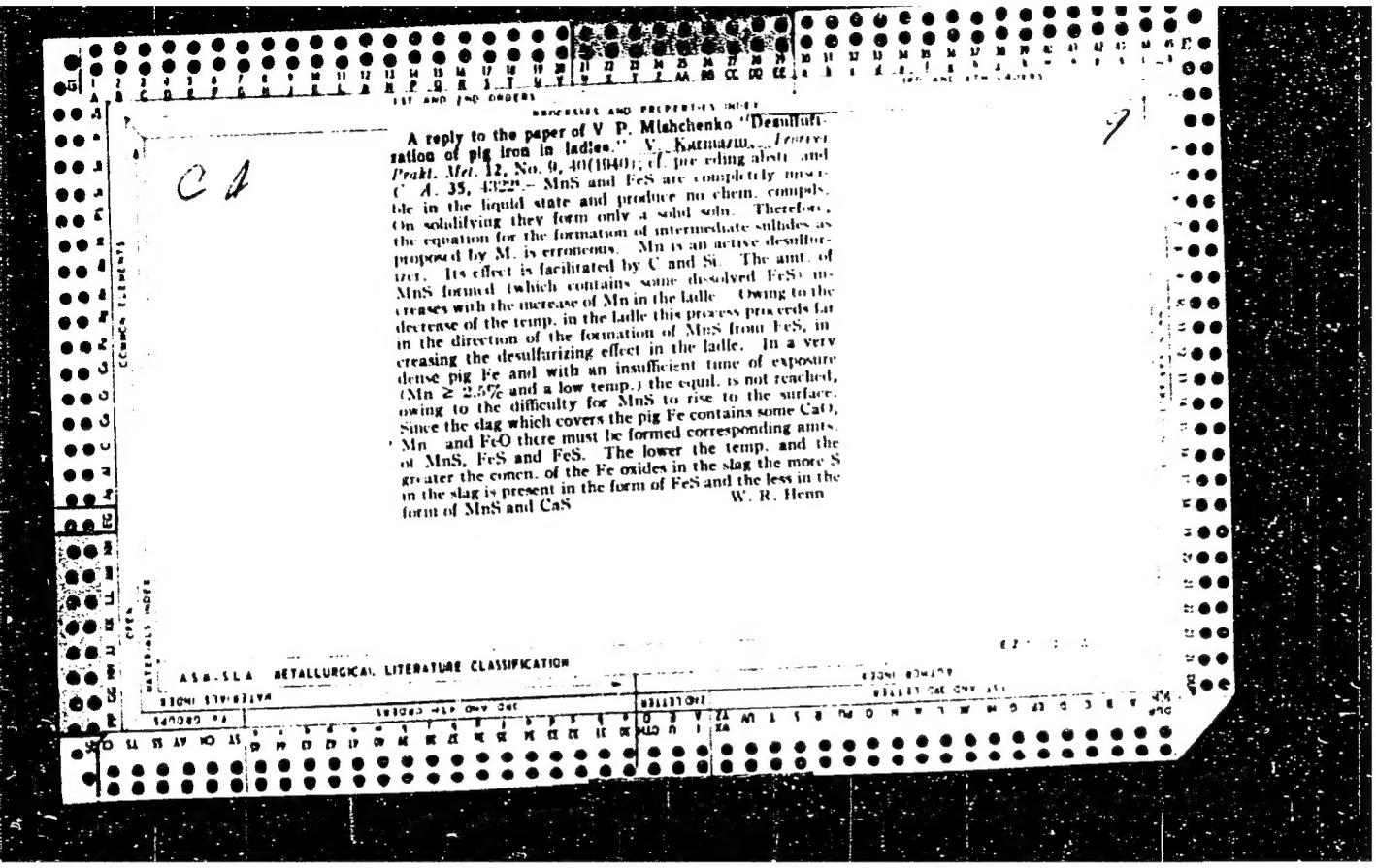
PROCESSES AND PROPERTIES INDEX

9

The deoxidation of killed steel. V. Karmazin and G. P. Pukhnarevich. *Tsvetn. Prakt. Met.* 12, No. 1, 28-37 (1940).—For melting pure and dense steel in a large open-hearth furnace, it is important for the deoxidation of the bath to heat the metal to a temp. of 130-50° above the m. p. during the whole process of melting and pouring; to produce a normal η of the slag before the addn. of ore; to carry out the preliminary deoxidation in the furnace with blast-furnace silicomanganese by adding 0.07-0.10% of Si to the bath and the remaining Si to the ladle; to regulate the rate of pouring by using receptacles with different diams., depending on the temp. of the metal. The content of O in the steel can be detd. from [O] = 0.0035 × P_{CO}/[C] where [O] and [C] are the percentages of O and C, resp., and P_{CO} is the vapor pressure of CO in atms. The amt. of Mn burned during melting is given either by Mn_{burned} = 55-44 Mn (1) or by Mn_{burned} = 62-101 Mn (2) where Mn is the percentage of Mn in the bath before deoxidation and Mn_{burned} the percentage of the burned Mn. (1) is used for small furnaces with a shallow bath (500 mm.) and (2) for furnaces with a deep bath (1000 mm.). The max. permissible amt. of S in the melting of killed steel deoxidized with Al does not exceed 0.035%. This reduction of the S content can be accomplished by desulfurizing the starting material and fuel and by proper slag control. Twenty-eight references.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



C 1

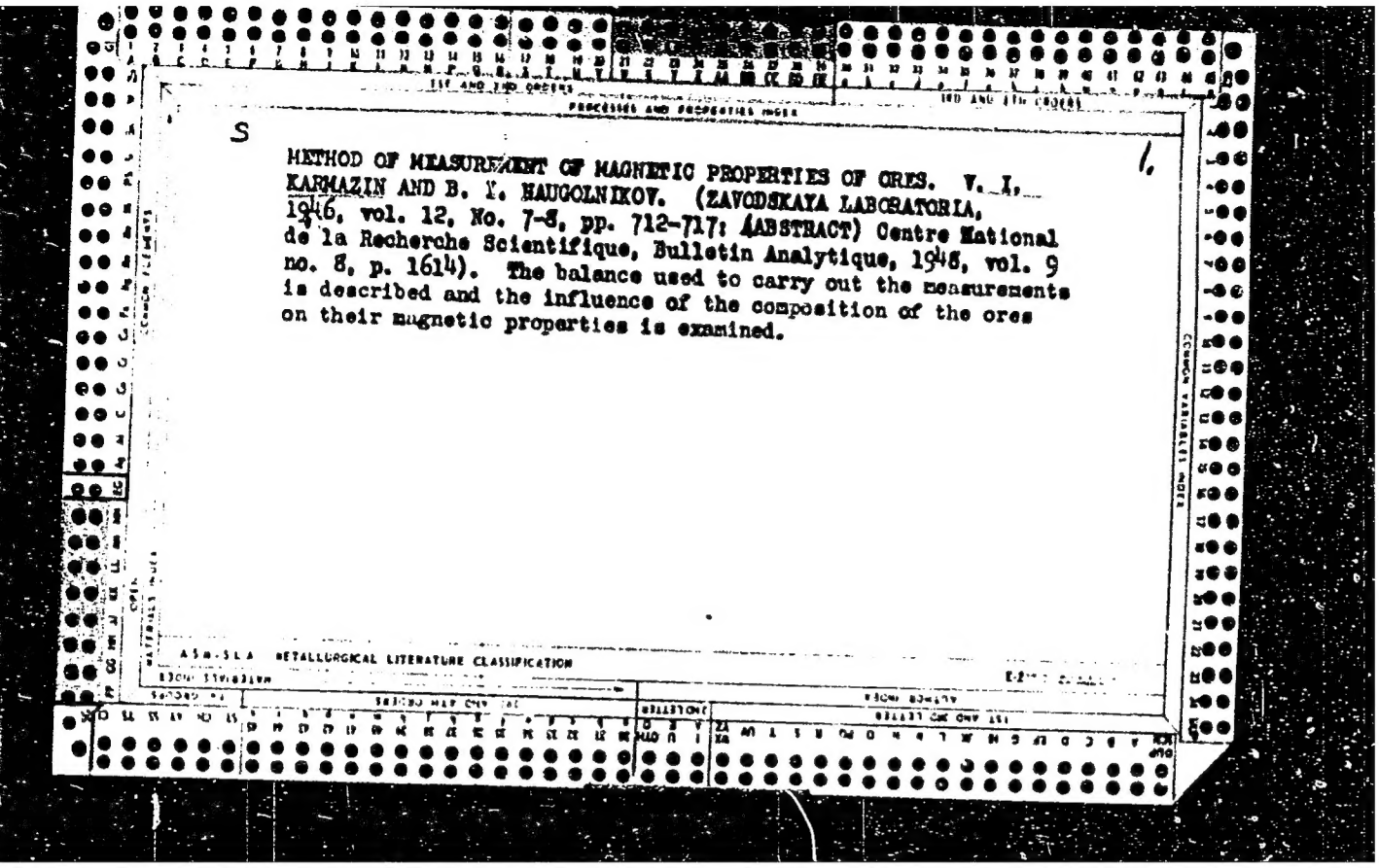
A reply to the paper of V P. Mlahchenko "Desulfuration of pig iron in ladles." V. Karnazin. *Ivestiya Prakt. Met.* 12, No. 9, 40(1940); cf. preceding abstr. and *C. A.* 35, 4329.— MnS and FeS are completely miscible in the liquid state and produce no chem. compds. On solidifying they form only a solid soln. Therefore, the equation for the formation of intermediate sulfides as proposed by M. is erroneous. Mn is an active desulfurizer. Its effect is facilitated by C and Si. The amt. of MnS formed (which contains some dissolved FeS) increases with the increase of Mn in the ladle. Owing to the decrease of the temp. in the ladle this process proceeds far in the direction of the formation of MnS from FeS, increasing the desulfurizing effect in the ladle. In a very dense pig Fe and with an insufficient time of exposure (Mn ≥ 2.5% and a low temp.) the equil. is not reached, owing to the difficulty for MnS to rise to the surface. Since the slag which covers the pig Fe contains some CaO, Mn and FeO there must be formed corresponding amts. of MnS, FeS and FeS. The lower the temp. and the greater the concn. of the Fe oxides in the slag the more S in the slag is present in the form of FeS and the less in the form of MnS and CaS.

W. R. Henn

KAMMAZIN, V.D.

Daily internal business accounting in the enterprises of the Petroleum Production Administration of the Dolina Petroleum Trust. Nefteprom. delo no. 3:28-30 '64. (MIRA 17:5)

1. Neftepromyslovoye upravleniye "Dolinanaft".

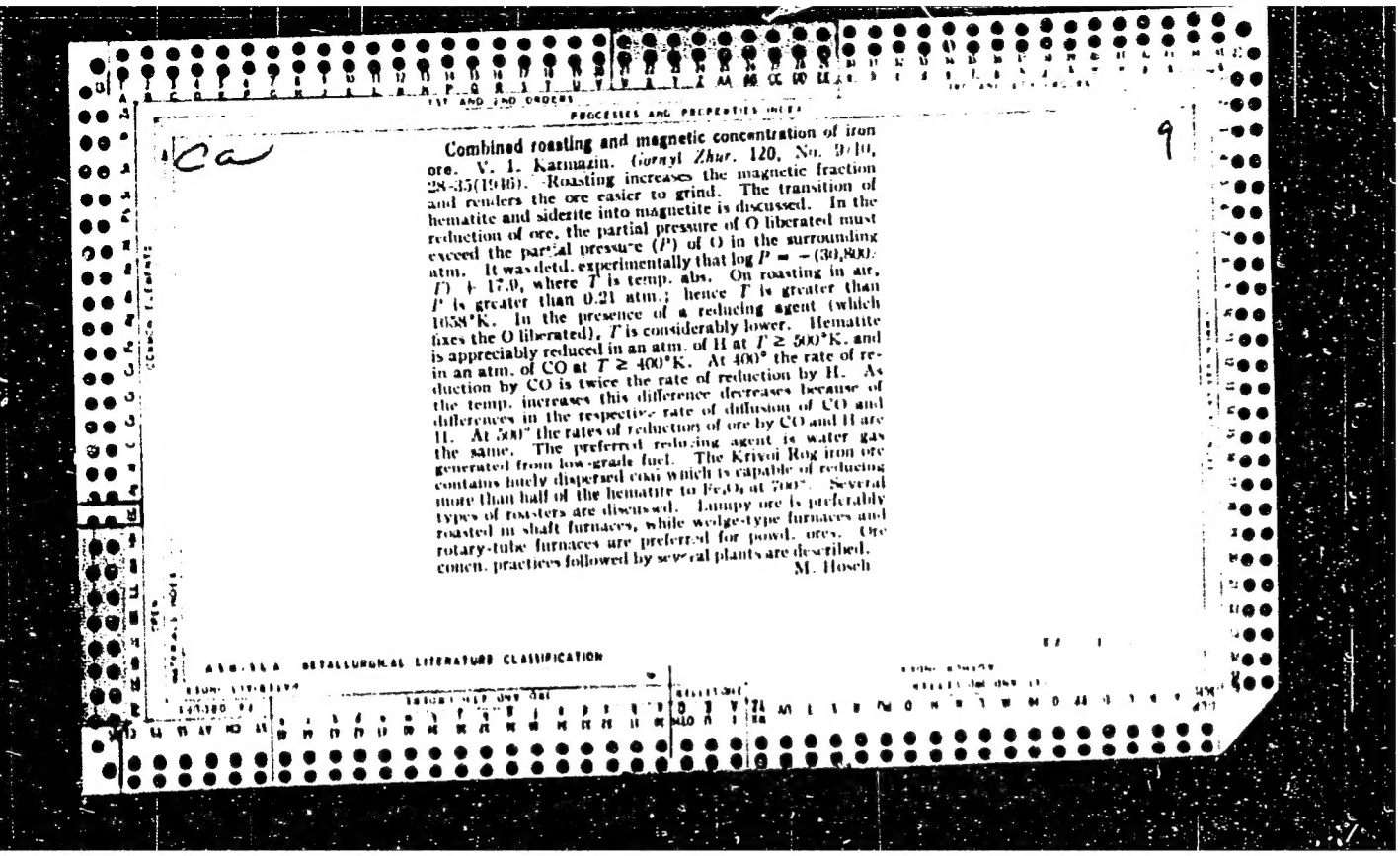


S

1.

METHOD OF MEASUREMENT OF MAGNETIC PROPERTIES OF ORES. V. I. KARMAZIN AND B. Y. MAUGOLNIKOV. (ZAVODSKAYA LABORATORIA, 1946, vol. 12, No. 7-8, pp. 712-717; ABSTRACT) Centre National de la Recherche Scientifique, Bulletin Analytique, 1946, vol. 9 no. 8, p. 1614). The balance used to carry out the measurements is described and the influence of the composition of the ores on their magnetic properties is examined.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

Ca

9

Combined roasting and magnetic concentration of iron ore. V. I. Karmazin. *Gornyi Zhur.* 120, No. 9/10, 28-35(1946). -Roasting increases the magnetic fraction and renders the ore easier to grind. The transition of hematite and siderite into magnetite is discussed. In the reduction of ore, the partial pressure of O liberated must exceed the partial pressure (P) of O in the surrounding atm. It was detd. experimentally that $\log P = -(30,800/T) + 17.9$, where T is temp. abs. On roasting in air, P is greater than 0.21 atm.; hence T is greater than 1058°K. In the presence of a reducing agent (which fixes the O liberated), T is considerably lower. Hematite is appreciably reduced in an atm. of H at $T \geq 500$°K. and in an atm. of CO at $T \geq 400$°K. At 400° the rate of reduction by CO is twice the rate of reduction by H. As the temp. increases this difference decreases because of differences in the respective rate of diffusion of CO and H. At 500° the rates of reduction of ore by CO and H are the same. The preferred reducing agent is water gas generated from low-grade fuel. The Krivoi Rog iron ore contains finely dispersed coal which is capable of reducing more than half of the hematite to Fe_3O_4 at 700°. Several types of roasters are discussed. Lumpy ore is preferably roasted in shaft furnaces, while wedge-type furnaces and rotary-tube furnaces are preferred for powd. ores. Ore concn. practices followed by several plants are described.

M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KARMAZIN, V. I.

USSR/Chemistry-Polarography, In Industrial Laboratories — Feb 48

Chemistry-Polarography, Electrodes in

PA 4/49T11

"A Rigid Immersed Electrode and Its Use in Polarography," V. S. Lyalikov, V. I. Karmazin, Krivoy Rog Mining and Ore Inst, 6 pp

"Zavod Lab" Vol XIV, No 2 p. 138-42

Describes new-type electrode, consisting of platinum needle immersed in electrolyte. Intermittent contact is assured by a stream of gas bubbles. Investigates effects of temperature, bubble speed, and depth of immersion of anode and cathode on polarogram. Constructs calibration curves for lead, copper, and cadmium. Relation between wave height and concentration is straight line. Further experimental investigation must precede introduction of the electrode into laboratory practice.

4/49T11

KARMAZIN, V. I.

PA 4/49T12

USSR/Chemistry-Analysis, Fusions
Chemistry-Polarography, Electrodes in

Feb 48

"The Use of Rigid Immersed Electrode in the Analysis of Fused Substances," Yu. S. Lyalikov, V. I Karmazin, Krivoy Rog Mining and Ore Inst, 5 pp

"Zavod Lab" Vol XIV, No 2 p. 144-8

Shows that polarography can be applied to analysis of fused substances and investigates kinetics of dissociation of certain salts. Reduction of waves was observed when ions, reacting with polarographed ion to form insoluble, lightly dispersed precipitates, were added to the molten mixture [$Ba_3(PO_4)_2$

4/49T12

USSR/Chemistry-Analysis, Fusions (Contd) Feb 48

into KNO_3]. Certain salts and oxides were only slightly soluble in basic solution, and their ions were not present even when solution was saturated (TlCl, CuO, NiO, in KNO_3). Ion dissociation may not occur when salts are readily soluble in basic solution ($CuSO_4$ and $NiSO_4$ in $K_2S_2O_7$).

4/49T12

KARMAZIN, V. I.

PA 40/49T75

Jan 49

USSR/Mining Methods
Ore Dressing

"Review of V. G. Derkach and I. S. Datsyuk's Book, 'Electromagnetic Concentration Processes,'" Docent V. I. Karmazin, Ye. F. Moskal'kov, 1 p

"Gor Zhur" No 1

Favorable review of subject book, which is a comprehensive work on magnetic separation methods and equipment.

40/49T75

KARMAZIN, V.I., kandidat tekhnicheskikh nauk

Kinetics of desulfurization in the production of steel. Trudy Inst. chern. met. AN URSR 3:25-49 '49. (MLRA 8:7)
(Steel--Metallurgy)

KARMAZIN, V. I.

20724. Karmazin, V.I. Tekhnologicheskaya klassifikatsiya "samotechnykh" pud i sheleznistykh porod Krivbassa. Gornyy zhurnal, 1949, No. 7, s. 29-35

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

CA

9

Technological classification of run of mine ores and ferruginous deposits of Krivbass. V. I. Karmazin. *Gornyi Zhur.* 123, No. 7, 29-35(1949). The ores and the ferruginous deposits of Krivoi Rog basin are plotted on a triangular coördinate diagram. The apex of the triangle is rich ore, ore in which Fe $\geq$ 60%, and the base is formed by rich gang, Fe $\geq$ 30%, and poor gang, Fe $\leq$ 25%. The concn. characteristics of the ores are plotted on a similar diagram. This enables one to select the proper concn. procedure for the max. utilization of the ore. M. Hoseh

CA

Relation of phosphorus to manganese minerals in ores
V. I. Karmazin. *Izvest. Akad. Nauk U.S.S.R., Ser. Geol.*, 1950, 138-60. The chief relation of P to "psilomelane-bog manganese" ores was shown by studies based on chem., magnetic, gravity, mineralogical, and polarographic analyses of Mn ores. In concentrates consisting of "psilomelane-bog manganese" the content of P increases as concn. of Mn rises. The reverse was found to be the case with manganite and pyrolusite. In the expts. only bi- and quadrivalent ions of Mn were detected. A classification diagram, comparing types of Mn ores with their degree of dephosphorization after concn., is provided. There are two graphs; one shows the relation between P and Mn contents and mineralogical compn. of Mn concentrate; the other shows the relation between P content per unit of Mn, magnetic behavior, and relative concn.
Gladys S. Macy

CA

9

Concentration methods of Krivoi Rog ores degraded in mining. V. I. Karmazin. *Gornyi Zhur.* 125, No. 7, 32-6 (1951).—In the course of mining and elevating the ore part of it becomes contaminated with gang. The properties, compn., etc., of this ore are described. The 5–50 mm. fraction is treated in magnetic separators of high-field intensity, while the finer fractions are treated in mech. classifiers. A flowsheet of the concn. plant is given. M. Hoseh

KARMAZIN, V.I.

Krivoy Rog - Iron Ores

Stamping Kriboy Rog iron ores. Gor. zhur. No. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. UNCLASSIFIED.

KARMAZIN, V. I.

USSR/Chemistry - Iron Ore Treatment Jan 53

"Characteristics of the Process of Reductive Magnetization of Iron Oxide Ores," V.A. Royter, V.I. Karmazin, V.A. Yuza, and A.N. Kuznetsov, Dnepropetrovsk Chem-Technological Inst im F. E. Dzerzhinskiy; Krivoy Rog Sci-Research Ore Mining Inst

Zhur Fiz Khim, Vol 27, No 1, pp 125-129

Effective reductive magnetization of iron oxide ores demands the selection of conditions favorable to gradual rather than zonal reduction of the oxides in the entire mass of the lumps or the whole

268T20

layer of ore. Diffusion interferes with gradual reduction. In the reduction with H of individual pieces of quartzite, the gradual manner of the reduction is much more pronounced than in reduction with CO. H is hardly suitable for the reduction of a sufficiently long layer, because of the strong inhibiting effect of H_2O on the first stage of the reduction of Fe_2O_3. As a result of this inhibition formation of zones in the ore must occur. Gases containing a mixture of H and CO are of considerable advantage.

268T20

KARMAZIN, V.I., dotsent, kandidat tekhnicheskikh nauk

"Magnetic separation of low magnetic ores." Gor.zhur. no.4:60-61 Ap '55.
(Magnetic separation of ores) (Derkach, V.G.) (MLRA 8:7)

Karmazin, V.I.

1

Development of Economical Furnaces for the Magnetic Roasting Beneficiation of Ores. V. I. Karmazin. (*Stal'*, 1945, (6), 532–538). [In Russian] The economics of the reduction-roasting-magnetic method of beneficiating iron ores are discussed and designs of suitable shaft and kiln furnaces are considered. Among the designs illustrated are those of experimental shaft and rotating kiln furnaces designed by the Ore-Mining Research Institute. It is concluded that, generally, the relatively high capital costs of this process are recouped by savings in blast-furnace operating costs.

ZHIVOV,L.G., kandidat tekhnicheskikh nauk; KARMAZIN,V.I., kandidat tekhnicheskikh nauk; KOZLIK,V.I., inzhener

Grizzlies with mesh heated by electric current. Gor.zhur. no.9:46-48 S '55. (MLRA 8:8)
(Screens (Mining))

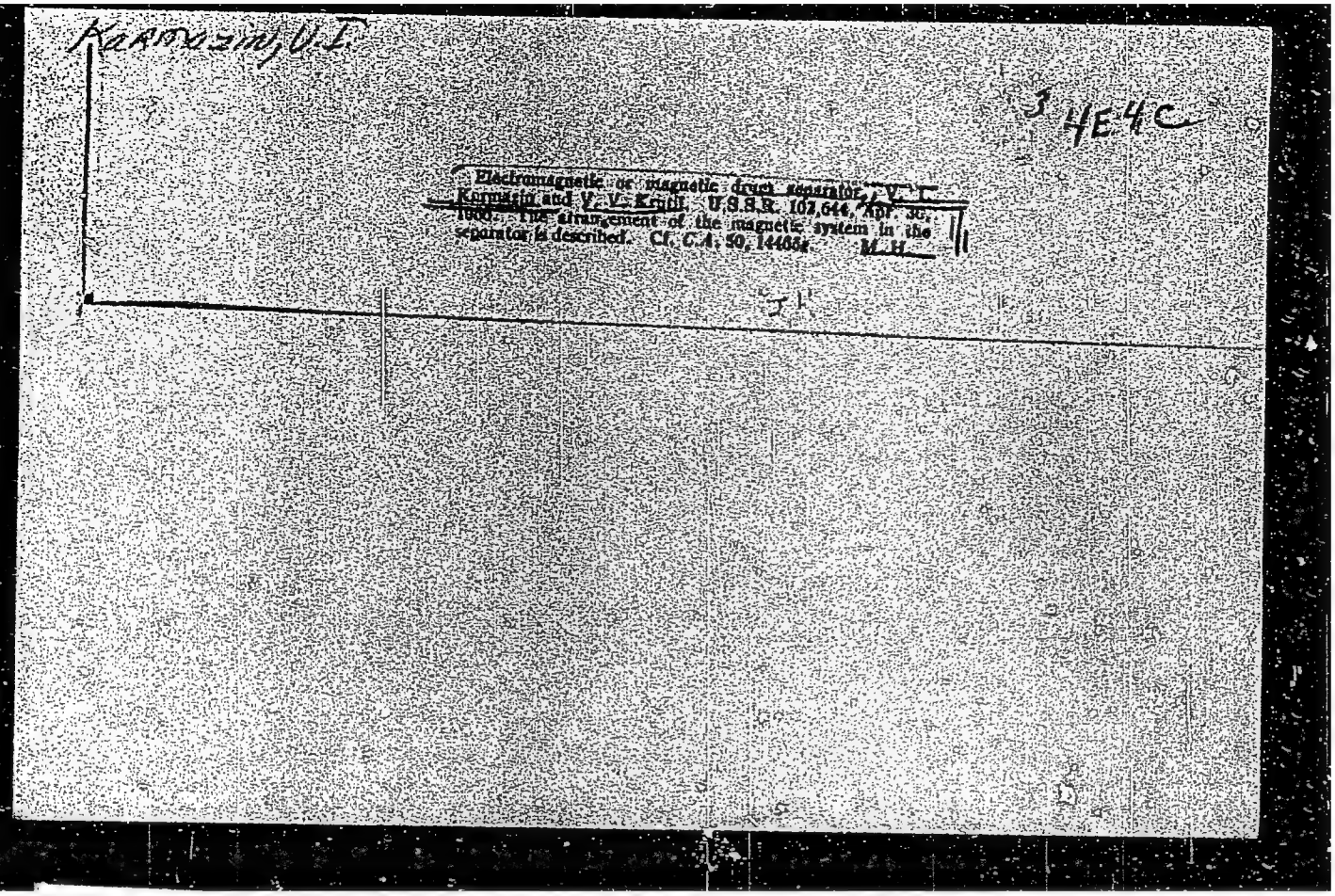
KARMAZIN, V. I.

NG ✓Closed magnetic system separators for magnetite ores and suspensions. V. I. Karmazin. *Gornyĭ Zhur.* 1955, No. 10, 41-9.—A discussion of magnetic separators having a focused field and magnet poles arranged on both sides of the moving material. Several kinds of separators put out by NIGRI, Institute of Mining and Ore Treatment, were tested and are described. M. Hosch

KARMAZIN, V.I., kandidat tekhnicheskikh nauk.

Intensification of beneficiation of magnetite quartzite. Stal' 15 no.11:969-976 N '55. (MLRA 9:1)

1.Nauchno-issledovatel'skiy gornorudnyy institut.



KARPUZIN, V. I.

3 HE 4C

Electromagnetic or magnetic drum separator. V. I. Karpuzin and V. V. Krutil. U.S.S.R. 102,644, Apr. 30, 1956. The arrangement of the magnetic system in the separator is described. Cf. C.A. 50, 14405a. M. H.

KAR M42 14, v. 2

Intensification of magnetic concentration. V. I. Karmazin (Sci. Research Mining Inst., Krivoi Rog). Gornyi Zhur. PH 1956, No. 2, 55-62.—The advantages of closed magnetic-system separators having focused fields is discussed.

M. Hoseh

KARMAZIN, V.I., kandidat tekhnicheskikh nauk; KRUTIY, V.V., tekhnik.

Industrial practice of magnetic separation of chert by permanent magnet separation. Gor.zhur. no.6:47-51 Je '56. (MLRA 9:8)

1. Nauchno-issledovatel'skiy gornorudnyy institut.
(Magnetic separation of ores) (Chert)

KARMAZIN, V.I.

137-1958-1-50

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 1, p 9 (USSR)

AUTHOR: Karmazin, V.I

TITLE: New Data on the Concentration of Iron Quartzites (Novyye dannyye po obogashcheniyu zhelezistykh kvartsitov)

PERIODICAL: Sbornik trudov Nauchno-issledovatel'skogo gornorudnogo instituta [illegible] Vol 1, pp 352-384

ABSTRACT: Production engineering and cost analyses of the efficiency of iron quartzite concentration are adduced. The calculations show that the concentration of magnetite quartzites pays for itself in fuel economy and increased blast furnace output in the smelting of pig iron from agglomerate, if it contains $\geq$60 percent Fe (with a yield of $\sim$50 percent). Beneficiation of oxidized quartzites can be economical only when the efficiency of ore dressing is very high. Therefore, magnetite-quartzite and magnetite-silicate cherts are priority raw materials for beneficiation. The employment of continuous patterns of concentration in multiple-drum separators permits high-quality concentrates (60-65 percent iron) to be obtained, without excessive reduction in particle size, increase in power consumption, or diminution in iron

Card 1/2

137-58-4-6362

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 4 (USSR)

AUTHOR: Karmazin, V. I.

TITLE: Separators With a Closed Magnetic System (Separatory s zamknutoy magnitnoy sistemoy)

PERIODICAL: Sb. tr. N.-i. gornorudn. in-t, 1957, Vol 1, pp 385-419

ABSTRACT: A brief presentation is made of the principles on which intensification of the process of magnetic separation may be founded and the results of shop experiment in employing a new type of separator (S) for highly magnetic materials. A description is offered of the design of a NIGRI S with a closed system and a focused field (engineering characteristics: design principles, description of the wet drum S, a variant of the drum S for dry separation of fine-ground highly-magnetic materials, an S for dry milling of highly and medium-magnetic lump materials). Results are presented for electrical and engineering tests for the S. A description of the NIGRI-2-VK-5 S for weakly-magnetic materials is offered. A classification of magnetic S is given. Magnetic S with isodynamically focused fields and poles on both sides of the

Card 1/2

KARMAZIN, V. I.

137-1958-3-4562

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 13 (USSR)

AUTHOR: Karmazin, V. I.

TITLE: Experimental Results of Reducing Oxidized Quartzites in the "Boiling Layer" by Means of Magnetic Roasting Utilizing Blast-Furnace Gases (Rezul'taty opytov obzhig-magnitnogo obogashcheniya okislennykh kvartsitov v "kipyashchem sloye" s primeneniyem domennogo gaza)

PERIODICAL: N.-i. gornorudn. in-t. Byul. nauchno-tekhn. inform., 1957, Vol 2, pp 48-56

ABSTRACT: Presentation of preliminary data, showing the advisability of conducting planning and research work dealing with experimental industrial concentration of oxidized ores from the Krivoy Rog and Kerch deposits, in order to prepare them for a reducing and reducing-oxidizing roast. The Author cites the system of an acid plant in the USA (Negaunee) which employs a single stage reactor for magnetic roasting, and presents a diagram of a multi-stage reactor employed for reduction roasting of Fe ores in the "boiling layer", as well as the design of a furnace for reducing-oxidizing magnetic roasting equipped with a movable hearth.

A. Sh.

Card 1/1

Karmazin V.I.

137-58-3-6233

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 256 (USSR)

AUTHORS: Karmazin, V.I., Krutiy, V.V.

TITLE: Results of the Employment of a High-speed Magnetic Analyzer With a "Boiling Layer" at the YuGOK Plant (Rezul'taty primeneniya na YuGOK magnitnogo ekspress-analizatora s "kipyashchim sloyem")

PERIODICAL: N.-i. gornorudn. in-t. Byul. nauchno-tekhn. inform., 1957, Vol 2, pp 56-63

ABSTRACT: On the strength of a large number of magnetic analyses (over 10,000) it has been established that, the FeO content and the "acidity" of an ore (Fe/FeO) being equal, the concentration criteria of ores fluctuate over a wide range. Chemical analysis methods alone do not provide an accurate evaluation of the phase composition of ores and do not permit a rational basis for the planning of the concentration process. Magnetic analyses are being performed on magnetic high-speed NIGRI analyzers which, during a period of one and one-half years of operation, have proved their reliability and efficiency. It is established, on the basis of studies of results of magnetic analyses, that it is imperative to

Card 1/2

137-58-3-6233

Results of the Employment of a High-speed Magnetic Analyzer (cont.)

design magnetic separators for refining of concentrates and tailings and include them into the existing equipment system of the YuGOK plant. It is recommended that concentrating plants include in their reports the average shift and monthly data on the magnetic analysis of raw material, concentrates, and tailings, as well as the results of the quantitative analysis of individual samples thereof.

Z.G.

Card 2/2

Karmazin, V.I

137-1958-3-4513

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 5 (USSR)

AUTHOR: Karmazin, V. I.

TITLE: A New System for the Classification of Magnetic Separators (Novaya klassifikatsiya apparatov dlya razdeleniya materialov po magnitnym svoystvam)

PERIODICAL: N.-i. gornorudn. in-t. Byul. nauchno-tekhn. inform., 1957, Nr 2, pp 63-71

ABSTRACT: In the Author's opinion, the nomenclature of separating apparatus should be based on the following prominent characteristics: a) designation of the operating component of a system which transports the magnetic particles by its initial, e.g., L (Lenta= belt) etc.; b) description of the arrangement (one-sided or two-sided) of magnetic poles: no symbol is employed for a one-sided arrangement, whereas, for a two-sided arrangement, the letter F is used if the field is focused, and the letter I, if the field is isodynamic; c) description of the magnetic system: P for permanent magnets, E for electromagnets; d) sensitivity and manner of separation; these are specified by a number representing the rate of separation of the magnetic fraction within the operating

Card 1/2

A New System for the Classification of Magnetic Separators

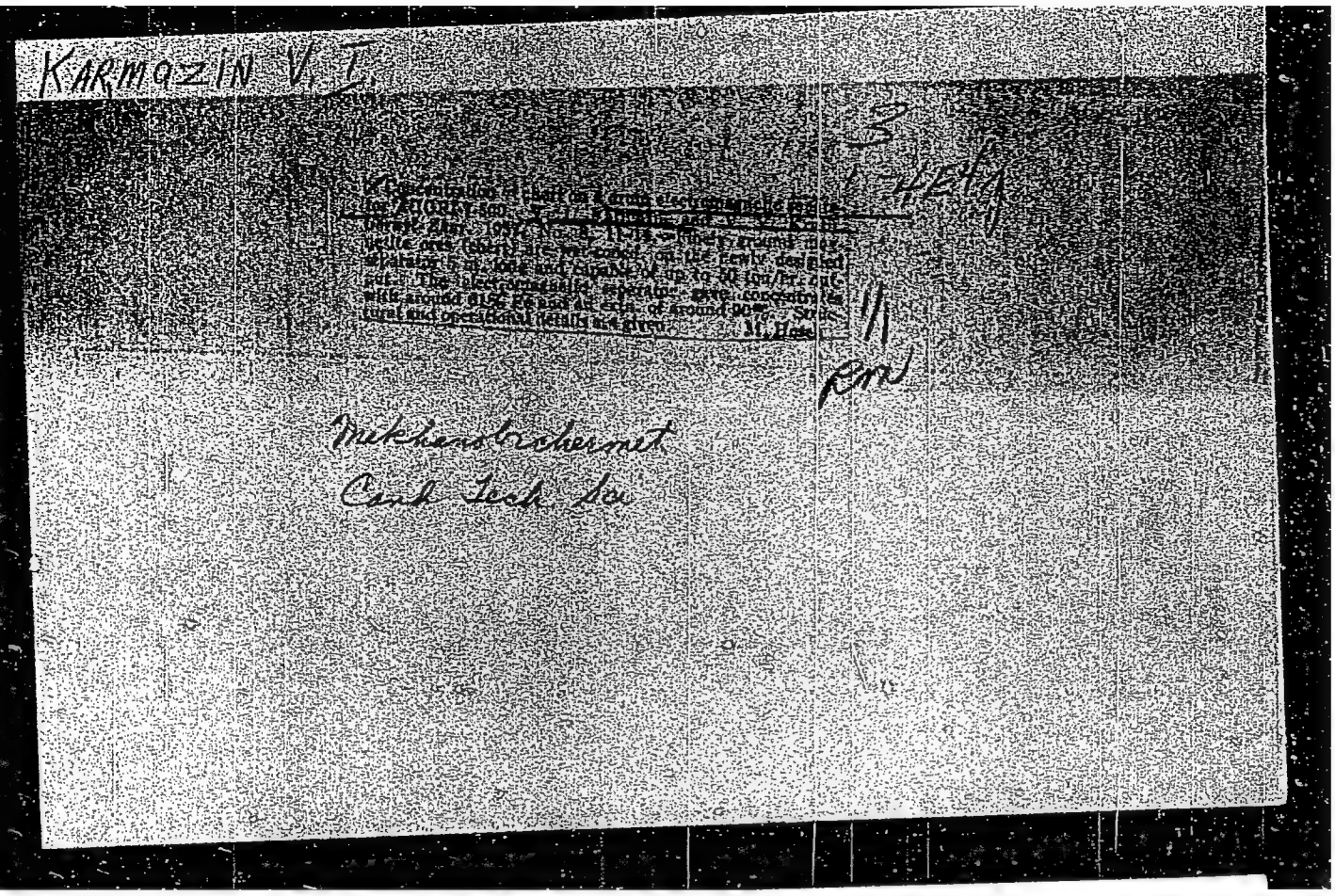
space of the separator, and by a letter M for wet separation, and B for dry separation; no indices are employed at all if the process involved is one of dry separation in a field of identical polarity and the material is charged in at the top; the letter M alone is employed in the case of wet reduction in a field of identical polarity, with the feed also at the top; e) magnetic properties of the material subjected to separation; these are denoted by a number equivalent to the exponent of the value of the specific magnetic susceptibility and by a letter specifying the particle size (I for sludge particles, T for fine particles, etc.); f) description of the size and the productivity of the apparatus, expressed by the width of the feed in m and by the floor area of the installation in m^2; these values appear in the form of a plain fraction and represent the effective utilization of the working area of the system. Thus, for example, the 128-SE separator may be designated as LE1M :- 2T 1/12.

A. Sh.

KARMAZIN, V.I.; KHERSONETS, L.N.

Preparation of magnetite quartzites of the southern Krivoy Rog Mining and Ore Dressing Combine. Gor. zhur. no.7:41-46 Jl '57. (MLRA 10:8)

1. Mekhanobrchermet.
(Krivoy Rog--Ore dressing) (Iron ores)



KARMAZIN, V.I.

127-11-12/12

AUTHORS: Karmazin, V.I., Candidate of Technical Sciences and Ostapenko, P.Ye., Technician

TITLE: Experience in Obtaining High-Quality Magnetite Concentrates (Opyt polucheniya vysokosortnykh magnetitovykh kontsentratov)

PERIODICAL: Gornyy Zhurnal, 1957, # 11, pp 78-80 (USSR)

ABSTRACT: The "Mekhanobrchermet" Institute has assembled an experimental installation in a laboratory for a two-stage concentration of magnetite quartzites. The installation operates continuously and represents a miniature concentration plant with a capacity of 100 kg of the initial ore per hour. The obtained concentrate contained 68.5% of iron, and the extraction amounted to 81.2%. The iron content in the tails was 10.9%. Further experiments were carried out under industrial conditions in the concentration plant of the "KMAruda" (Kursk Magnetic Anomaly Ore) combine in 1956. After a four-fold scouring the concentrate was obtained which contained 66.2% of iron without an increase of iron content in the tails.
The article contains 2 diagrams and 2 tables. One Slavic reference is cited.

AVAILABLE: Library of Congress

Card 1/1

Karmazin, V. I.

130-12-3/24

AUTHOR: Karmazin, V.I., Candidate of Technical Sciences.

TITLE: Fluidized-bed Magnetizing Roasting of Lead Hematite Ores (Magnetiziruyushchiy obzhig bednykh gematitovykh rud v kipyashchem sloye)

PERIODICAL: Metallurg, 1957, No.12, pp. 5 - 8 (USSR).

ABSTRACT: The author mentions that over half the Krivoi-Rog reserves of iron units is in the form of hematite-quartzite and describes attempts to concentrate such materials, with special reference to magnetic roasting. Laboratory investigations on magnetic roasting in fluidised beds were carried out by the Mekhanobr Institute in collaboration with the Oil Institute of the Ac.Sc. USSR (Institut nefti AN SSSR) and the Gas Utilisation Institute of the Ac.Sc. Ukrainian SSR (Institut ispol'zovaniya gaza AN USSR) were sufficiently promising for some pilot plans to be built at the YuGOK (Fig.1). The results there (Fig.3) were similar to those obtained in the USA and the efficiency of the process was limited because a single-bed roaster was used and the author gives a diagram of a multiple-bed one (Fig.4). He describes his 1947 proposal, not yet tested, for magnetising roasting on modified sinter strand where blast-furnace gas and air are passed through the (covered) bed (Fig.5). He estimates that a 50-m^2 strand would produce 3 to 3.5 thousand tons/day

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KARMAZIN, V.I.; KRUTIY, V.V.

Device for rapid analysis of dry powders for ferromagnetic impurities. Zav. lab. 23 no.3:367-368 '57. (MLRA 10:6)

1. Krivorozhskiy nauchno-issledovatel'skiy gornorudnyy institut.
(Powder metallurgy) (Magnetic instruments)

KARNAZIN, V. I.: Doc Tech 4 (diss) -- "The intensification of magnetic dressing of ferrous-metal ores". Moscow, 1958. 35 pp (Acad Sci USSR, Inst of Mining), 200 copies (KL, No 14, 1959, 119)

KARMAZIN, V.I.

Efficiency of the process of magnetic separation of quartzites. (MIRA 12:5)
Obog.rud 3 no.5:9-14 '58.
(Magnetic separation of ores) (Quartzite)

AUTHOR: Karmazin, V.I. and Dolotova, I.A. 127-58-7-12/20

TITLE: The Floatation of Iron Ores and Tails at Krivoy Rog Concentration Plants During the Sixth Five-Year Plan (Flotatsiya zheleznykh rud i shlamov obogatitel'nykh fabrik Krivogo Roga v shestoy pyatiletke)

PERIODICAL: Gornyy zhurnal, 1958, Nr 7, pp62-67 (USSR)

ABSTRACT: Two methods are generally used for the dressing of low grade ores: floatation and magnetic roasting. Both methods are now being tested at many institutes and laboratories of the USSR. The first research was done by Professor V.I. Trushlevich (Ref. 1) and, later, by the Doctor of Technical Sciences G.I. Yudenich, Z.S. Bogdanova of the Mekhanobr Institute and the Doctor of Technical Sciences F.N. Belash of the Kol'skiy filial AN SSSR (Kola Branch of the AS USSR). Calculations made in Mekhanobr showed that the floatation method is more economical than the other. Mekhanobrchermet found that the floatation method, with the water from Krivoy Rog mines used in the concentration plants of that region, gives unsatisfactory results because of the hard composition of the water. Tests of the desliming of tails in hard water showed that only 14 to 40 % of the slime was removed whereas the same operation with

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127-58-7-12/20

The Floatation of Iron Ores and Tails at Krivoy Rog Concentration Plants During the Sixth Five-Year Plan

distilled water gives much better results. The time of floatation is 2 to 3 times longer when hard water is used. The effectiveness of concentration of tails in various waters supplemented by reagents was also studied. As a result of this study, it is proposed that the pulp of tails should be processed by water with an addition of sulfuric acid or soda, which increases the contents of iron in the concentrated mass. The problem of purifying the water of Krivoy Rog for use in floatation must be solved.
There are 3 tables and 2 graphs and 10 Soviet references.

ASSOCIATION: Mekhanobrchermet

Card 2/2 1. Iron ore-Flotation 2. Iron ore-Magnetic roosting

SOV/127-58-2-25/26

AUTHORS: Belash, F.N., Doctor of Technical Sciences, Professor; Delitsina, G.B., Karmazin, V.I. and Kharlamov, V.S., Candidates of Technical Sciences, Azarov, A.L., Dolotova, I.A. and Rovenskiy, I.I., Engineers

TITLE: The Concentration and Agglomeration of Minerals in North-Western Regions of the USSR (Obogashcheniye i aglomeratsiya poleznykh iskopayemykh Severo-Zapadnykh rayonov SSSR). Leningrad, Mekhanobr, 1957, vol. 102, 344 pp. with illustrations. Circulation 1,700. Price 12 rubles. (Leningrad, Mekhanobr, 1957, vyp. 102.344 str.s ill. Tirazh 1,700. Tsena 12 rub.)

PERIODICAL: Gornyy zhurnal, 1958, Nr 12, pp 67 - 69 (USSR)

ABSTRACT: This is a review of the above mentioned book.

Card 1/1

LEVITSKIY, Aleksandr Matveyevich; KARMAZIN, V.I., kand.tekhn.nauk, retsenzent; OLOFINSKIY, N.F., kand.tekhn.nauk, retsenzent, otv. red.; YEVDOKOVA, M.L., red.izd-va; BERESLAVSKAYA, L.Sh., tekhn. red.; SHKLYAR, S.Ya., tekhn.red.

[Electromagnetic conveyer-belt separators for the beneficiation of strongly magnetic ores] Elektromagnitnye lentochnye separatory dlia obogashcheniia sil'nomagnitnykh rud. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1959. 198 p. (MIRA 13:1)
(Magnetic separation of ores)
(Separators (Machines)--Electric driving)

18.3200

77421
SOV/130-60-1-4/22

AUTHORS: Karmazin, V. I., Gubin, G. V., Tsybenko, A. V., Kucher, A. M.

TITLE: Blast Furnace Production. New Technology of Kerch' Ore Preparation for Smelting

PERIODICAL: Metallurg, 1960, Nr 1, pp 7-10 (USSR)

ABSTRACT: The authors emphasize the need for drastically increasing the use of low-cost Kerch' ore (composition: 32-49% Fe, 0.35-3.5% Mn, 0.1% As, and 25-30% limonite). Previous concentration processes have not proved rational. The Scientific Research Institute for Mechanical Concentration of Minerals of Ferrous Metallurgy (Mekhanobrchermet) has developed a process which involves roasting by natural gas. Contrary to earlier methods, the gangue (25-30% Fe) is refired at 1,100-1,200° C to dissociate iron aluminosilicates and separate metallic iron. Magnetic roasting at 700-800° C and subsequent magnetic separation failed to lower the Fe content in the gangue.

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Blast Furnace Production. New Technology of Kerch' Ore Preparation for Smelting

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However, for lean ores magnetic separation is more effective, increasing Fe content in the concentrate by 6-8%. The removal of As was tested, and results showed that gaseous reducing agent in a "boiling" layer of basic ore is more effective than a solid reducing agent in a "nonboiling" layer. In another test, 78% As was removed by blowing steam through heated ore (42.7% Fe, 0.13% As) at 1,000° C. Methods of direct ore reduction were tested in a laboratory rotary furnace comprising a metal housing with a 200-mm-diam stainless steel tube sealed at one end by welding. While heating the working area, the combustion products did not penetrate into the reduction zone, allowing the maintenance of a high carbon monoxide content (to 80%). The 5-kg charge contained ore, dolomite, and coke breeze. Reduction occurred at 1,150° C. After cooling, the reduced ore was crushed and subjected to centrifugal electromagnetic separation. A concentrate with 90% Fe and gangue with 5% Fe was produced. The authors

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KARMAZIN, V.I.; KRUTIY, V.V.

Roller-type separator with a strong magnetic field. Biul. tekh.-ekon.inform. no.2:6-8 '60. (MIRA 13:6)
(Magnetic separation of ores)

S/133/60/000/006/001/011

AUTHOR: Karmazin, V. I., Doctor of Technical Sciences

TITLE: How Metallurgical Processes Will Develop

PERIODICAL: Metallurg, 1960, No. 6, pp. 2-3

TEXT: Information is given on new processes in metallurgy, developing on the basis of high-quality raw material produced by the latest concentration techniques. One of these processes is the modified-blast-furnace or direct process of iron production where natural gas and cheap low-grade coal will replace the expensive coke. This method will simplify the steelmaking technology and produce steel with higher mechanical properties than conventional steel grades. "Primary" metal will be a most valuable product for high-quality steel melting. Sponge iron containing less than 0.5% dead rock will be used for metal ceramics. Studies on the direct production of iron are, however, still at the stage of laboratory and semi-industrial investigations. The Laboratory of annealing and direct iron production at the "Mekhanobrchermet" Institute, headed by G. V. Gubin, Candidate of Technical Sciences, is occupied with the design of furnaces with a fluidized bed for direct ore reduction. Methods are studied of using natural gas for the heating and reduction of ores in the

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furnaces, in magnetizing calcination and direct iron production; mechanisms and kinetics of ore reduction with natural gas are investigated. The Institute proceeds moreover with the research on the deep dressing of ores, to raise the quality of metallurgical raw material by concentration. This will result in a highly efficient economical effect. Calculations show that in using concentrates with 66% iron and 7% silica the prime cost of cast iron will drop by 23-25 rubles per ton, efficiency of furnaces will raise by 14% and coke consumption will be reduced by 57-58 kg/t cast iron. The Institute's work is, furthermore, directed to the following subjects: development of the technology of dressing magnetite and acidified quartzites for mining concentration combines; designing of highly efficient equipment; concentration of technical ores from the Krivoy Rog basin, development of calcinating-magnetic and flotation concentration of acidified iron ores; designing of equipment for the concentration of magnetites and calcinated ores by the dry method in centrifugal magnetic separators. Methods for the production of fluxed rounded-up lumps are developed at the laboratory of sintering directed by I. I. Rovenskiy. The use of fluxed lumps will allow the elimination of flux from blast furnaces so that coke consumption will be still more reduced. Processes of concentrating technical ores with the use of heavy suspensions are investigated. Flotation

How Metallurgical Processes Will Develop

combined with hydrometallurgical reduction of manganese slime will eliminate the loss of valuable metal.

ASSOCIATION: Mekhanobrchermet

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KARMAZIN, V.I., doktor tekhn.nauk; KHERSONETS, L.N., inzh.; KURTIY, V.V., inzh.; NIKOLAYENKO, V.P., inzh.

Industrial testing of drum separators using the overflow of classifiers. Gor.zhur. no.6:70-73 Je '60. (MIRA 14:2)

1. Mekhanobrchermet, Krivoy Rog.
(Separators)

ZAIKIN, S.A.; KARMAZIN, V.I.; MARGULIS, V.S.; SHUPOV, L.P.

Improving crushing flowsheets in mining and ore-dressing combines. Gor. zhur. no.10:74-76 O '61. (MIRA 15:2)

1. Mekhanobrchermet, Krivoy Rog.
(Crushing machinery)

KARMAZIN, V.I.

Quality of iron ore concentrates. Obog. rud 5 no.1:13-14 '60.
(MIRA 14:8)

1. Mekhanobrchermet.
(Ore dressing--Quality control)
(Iron ores)

KARMAZIN, V.I.; SHUPOV, L.P.; MARGULIS, V.S.

Centrifugal-impact crusher for the reduction of Krivoy Rog iron ores. Obog.rud. 5 no.2:35-37 '60. (MIRA 14:8)

1. Mekhanobrchermet.
(Krivoy Rog Basin--Iron ores) (Crushing machinery)

SOROKIN, V.A., doktor tekhn.nauk; KARMAZIN, V.I., doktor tekhn.nauk; KATSEN, L.G., kand.tekhn.nauk; IVANOV, A.I., inzh.; OSTAPENKO, P.Ye., inzh.

Magnetized roasting of Krivoy Rog quartzites in a fluidized bed. Stal' 20 no. 12:1057-1060 D '60. (MIRA 13:12)

1. Mekhanobrchermet.
(Kriovy Rog--Quartziete) (Fluidization)

GUBIN, G.V. (Krivoy Rog); KARYAZIN, V.I. (Krivoy Rog); SHKOVYRA, G.D. (Krivoy Rog)

Some features of the reduction of calcined pellets of concentrates from the Southern Mining and Dressing Combine by gaseous reducing agents. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl. no.1:147-148 Ja-F '61. (MIRA 14:2)

(Iron--Metallurgy)

KARMAZIN, V.I., doktor tekhn.nauk; OSTAPENKO, P.Ye., gornyy inzhener

Obtaining high-grade concentrates from low-grade iron ores. Gor. zhur. no.5:62-67 My '61. (MIRA 14:6)

1. Mekhanobrchermet, Krivoy Rog.
(Ore dressing) (Iron ores)

KARMAZIN, V.I., doktor tekhn.nauk; KHERSONETS, L.N., inzh.; KRUTIY, V.V., inzh.; NIKOLAYENKO, V.P.; PILINSKIY, G.I., inzh.

Industrial testing of magnetic separators with counterflow and semicounterflow tanks. Gor. zhur. no.11:63-65 N '61. (MIRA 15:2)

1. Mekhanobrchermet, Krivoy Rog.
(Separators (Machines))

KARMAZIN, V.I.; KRUTIY, V.V.; NIKOLAYENKO, V.P.

Industrial practice in wet electromagnetic separation of ilmenite sands in 2VK-5 separators. TSvet.met. 34 no.10:21-24 O '61. (MIRA 14:10)

1. Mekhanobrchermet.
(Ilmenite) (Magnetic separation of ores)

KARMAZIN, Vitaliy Ivanovich, doktor tekhn. nauk, prof. Prinimali uchastiye: KRUTIY, V.V.; SANZHAROVSKIY, P.A.; GUBIN, G.V.; ZUBAREV, S.N., otv. red.; ARZAMASOV, N.A., red.izd-va; BOLDYREV, Z.A., tekhn. red.

[Modern methods of magnetic separation of ferrous metal ores] Sovremennye metody magnitnogo obogashcheniia chernykh metallov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1962. 658 p. (MIRA 15:3)
(Magnetic separation of ores) Iron ores)

PEVNIKOVA, L.A.; GUBIN, G.V.; POGORELOV, V.P.; KARMAZIN, V.I.

Calcining limestone in a "boiling" layer multiple-zone reaction vessel. Stroi. mat. 8 no.5:3-5 My '62. (MIRA 15:7)
(Limestone)

ZAIKIN, S.A.; KARMAZIN, V.I.; SHUPOV, L.P.

Use of ball-free mills for the comminution of iron quartzites.
Obog. rud no.6:39-41 '61. (MIRA 15:3)

1. Mekhanobrchermet.
(Crushing machinery) (Iron ores)

KARMAZIN, V.I., doktor tekhn.nauk; KABISHER, S.G., inzh.; KHVATOV, Yu.A., inzh.; KARMAZIN, V.V., inzh.; BURAYEV, B.K., inzh.

Industrial production of final iron ore concentrates. Met. i gornorud. prom. no.3:58-62 My-Je '62. (MIRA 15:9)
(Ore dressing)

KARMAZIN, V.I.; KOSOY, G.M.; SHINKORENKO, S.F.; GRAZHDANTSEV, I.I.; BROSHEVALOV, A.F.

An experimental unit for dressing manganese ores in heavy suspension in a hydrocyclone. Gor. zhur. no.3:74-77 Mr '62. (MIRA 15:7)

1. Institut Mekhanobrchermet (for Karmazin, Kosoy, Shinkorenko).
2. Trest Nikopol'-Marganets (for Grazhdantsev, Broshevalov).

(Manganese ores) (Ore dressing)

KABISHCHER, S.G.; KARMAZIN, V.I.; KHVATOV, Yu.A.; BURAYEV, B.K.

Obtaining high-grade flotation concentrates at the New Krivoy Rog Mining and Ore Dressing Combine. Gor.zhur. no.8:58-62 Ag '62. (MIRA 15:8)

1. Mekhanobrchermet (for Kabishcher). 2. Dnepropetrovskiy gornyy institut (for Karmazin). 3. Novo-Krivorozhskiy gorno-obogatitel'nyy kombinat (for Khvatov, Burayev).
(Krivoy Rog Basin—Flotation)

VINOGRADOV, V.S., inzh.; AL'TSHULER, M.A., kand. tekhn. nauk; POLYAKOV, V.G., inzh.; KUROCHKIN, A.N., inzh.; KAMAZIN, V.I., doktor tekhn. nauk; ZAIKIN, S.A., inzh.; OSTROVSKIY, G.P., inzh.[deceased]; NAUMENKO, P.I., inzh.; BOBRUSHKIN, L.G., inzh.; RUSTAMOV, I.I., inzh.; SHIFRIN, I.I., inzh.; GOLOVANOV, G.A., inzh.; KRASOVSKIY, L.A., inzh.; TSIMBALENKO, L.N., inzh.; RAVIKOVICH, I.M., inzh.; BAZILEVICH, S.V., kand. tekhn.nauk; ZORIN, I.P., inzh.; ZUBAREV, S.N., inzh.; TIKHOVIDOV, A.F., inzh.; SHITOV, I.S., inzh.; GAMAYUROV, A.I., inzh.; KUSEMBAYEV, Kh.N., inzh.; DEKHTYAREV, S.I., inzh.; VORONOV, I.S., inzh.; BURMIN, G.M., inzh.; BARYSHEV, V.M., inzh.; GOLOVIN, Yu.P., inzh.; MARCHENKO, K.F., inzh.; RYCHKOV, L.F., inzh.; NESTERENKO, A.M., inzh.; KABANOV, V.F., inzh.; PATRIKEYEV, N.N., inzh.[deceased]; ROSSMIT, A.F., inzh.; SOSEDOV, O.O., inzh.; POKROVSKIY, M.A., inzh., retsenzent; POLOTSK, S.M., red.; GOL'DIN, Ya.A., glav. red.; GOLUBYATNIKOVA,G.S., red. izd-va; BOLDYREVA, Z.A., tekhn. red.

[Iron mining and ore dressing industry]Zhelezorudnaia promyshlennost'. Moskva, Gosgortekhizdat, 1962. 439 p. (MIRA 15:12)

1. Moscow. TSentral'nyy institut informatsii chernoy metallurgii. (Iron mines and mining) (Ore dressing)

BUSHUYEV, V.P.; GUBIN, G.V.; GONCHARENKO, Yu.I.; KARMAZIN, V.I.; MARGULIS, V.S.; MITROV, V.A.; NIKOLAYENKO, N.O.; BOBRUSHKIN, L.G.; BUROV, A.I.; RYBAKOV, V.N.; SOSHIN, A.F.; TATSIYENKO, P.A.; TOVSTANOVSKIY, O.D.; YUROV, P.P.; Prinimali uchastiye: NIFAGINA, A.A.; CHERNYY, I.I.; GERSHOYG, Yu.G.; KOSTIKOV, A.G.; DOLGIKH, M.A.; MOVSKOVICH, S.A.; STUPIN, D.D.; NEVOYSA, G.G.

Magnetization roasting of Kerch ores in the experimental factory of Kamysh-Burun Combine. Gor. zhur. no.12:30-37 D '62. (MIRA 15:11)

1. Institut Mekhanobrchermet, Krivoy Rog (for Bushuyev, Gubin, Goncharenko, Karmazin, Margulis, Mitrov, Nikolayenko, Nifagina, Chernyy, Gershoyg, Kostikov). 2. Kamyshburunskiy zhelezorudnyy kombinat, Kerch' (for Bobrushkin, Burov, Rybakov, Soshin, Tatsiyenko, Tovstanovskiy, Yurov, Dolgikh, M.A.; Movskovich, S.A.; Stupin, D.D.; Nevoysa).
(Kerch Peninsula--Ore dressing)
(Iron ores)

KARMAZIN, V.I., doktor tekhn.nauk, prof.

Ore dressing. Nauka i zhyttia 12 no.10:22-23 O '62.
(MIRA 16:1)
(Ukraine--Ore dressing)

KARMAZIN, V.I., doktor tekhn.nauk; KOSTENETSKIY, O.N., inzh.

Intensifying the oxygen-converter steelmaking process with the use of ultra-pure iron ore concentrates. Met. i gornorud. prom. no.3:21-25 My-Je '63. (MIRA 17:1)

1. Dnepropetrovskiy gornyy institut (for Karmazin). 2. Dnepropetrovskiy metallurgicheskiy institut (for Kostenetskiy).

KARMAZIN, V.I., prof., doktor tekhn.nauk; SHUPOV, L.P.

Some problems in dewatering fine iron concentrates. Gor. zhur. no.9:56-59 S '63. (MIRA 16:10)

1. Dnepropetrovskiy gornyy institut (for Karmazin).
2. Mekhanobrchermet, Krivoy Rog (for Shupov).

KARMAZIN, V.I., prof., doktor tekhn. nauk; DENISENKO, A.I., gornyy inzh.

Autogenous grinding of Krivoy Rog magnetite-hornfels. Gor. zhur. no.10:53-56 O '63. (MIRA 16:11)

1. Dnepropetrovskiy gornyy institut.

KARMAZIN, V.I.; GUBIN, G.V.; KUCHER, A.M.

Testing four-zone furnaces with a fluidized bed for the magnetization roasting of iron ores. Stal' 23 no.6:494-496 Je '63. (MIRA 16:10)

1. Mekhanobrchermet.

KARMAZIN, V.I.; BEBESH, A.A.; POPKOV, Ye.A.

Wet magnetic separation of finely granular, weakly magnetic minerals. Tsvet. met. 36 no.12:74-75 D '63. (MIRA 17:2)

ARSENT'YEV, Aleksandr Ivanovich; VINOGRADOV, Vladimir Samoylovich; DZYUBENKO, Mikhail Grigor'yevich; YESHCHENKO, Aleksey Andreyevich; KALYAKIN, Viktor Vasil'yevich; KARMAZIN, Vitaliy Ivanovich; KISELEV, Vyacheslav Mikhaylovich; KULIKOV Vladimir Vasil'yevich; MELESHKIN, Sergey Mikhaylovich; SINARENKO, Aleksandr Ivanovich; KHIVRENKO, Akim Foteyevich; SHKUTA, Eduard Ivanovich; SHOSTAK, Afonasiy Grigor'yevich; MOSKAL'KOV, Yevgeniy Fedorovich, retsenzent; SOSEDOV, Orest Orestovich, retsenzent; ROSSMIT, Aleksandr Filippovich, otv. red.; SUROVA, V.A., red.izd-va; LAVRENT'YEVA, L.G., tekhn. red.

[Overall development of an iron-ore basin] Kompleksnoe razvitie zhelezorudnogo basseina. [By] A.I.Arsent'yev i dr.Moskva, Izd-vo "Nedra," 1964. 293 p. (MIRA 17:3)

PLAKSIN, I.N.; KARMAZIN, V.I.; OLOFINSKIY, N.F.; NORKIN, V.V.; KARAMZIN, V.V.; MAKARENKO, M.G., red.

[New trends in the concentration of disseminated iron ores] Novye napravleniia glubokogo obogashcheniia tonkovkraplennykh zheleznykh rud. Moskva, Izd-vo "Nauka," 1964. 202 p. (MIRA 17:4)

KARMAZIN, V.I., prof. doktor tekhn. nauk; DENISENKO, A.I., inzh.; YUROV, P.P., inzh.

Industrial testing of the crushing without balls of lean magnetite rocks. Gor.zhur. no.2:67-70 F '64. (MIRA 17:4)

1. Dnepropetrovskiy gornyy institut (for Karmazin, Denisenko).
2. Kamyshburunskiy kombinat (for Yurov).

KARMAZIN, V.I., doktor tekhn.nauk; MALETSKIY, N.A.

Improving the technology of the Krupp-Renn process for hard-to-concentrate Kerch peninsula ores. Met. i gornorud. prom. no. 2: 58-59 Mr-Ap '64. (MIRA 17:9)

KARMAZIN, V.I., prof.; KORIN', V.Ya., student

Centrifugal dry magnetic separation of weakly magnetic powder materials. Izv.vys.uchab.zav.;gor.zhur. 7 no.7:158-163 '64. (MIRA 17:10)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znameni gornyy institut imeni Artema. Rekomendovana kafedroy obogashcheniya poleznykh iskopayemkh.

KAMENSKIY, V.I., prof., doktor tekhn. nauk

"Gravity concentration processes." Ugol' 39 no.6:64 Je '64.
(MIRA 17:7)

1. Dnepropetrovskiy gornyy institut.

DENISENKO, A.I.; KARMAZIN, V.I.; SULTANOVICH, Ye.A.; MIGUTSKIY, L.R.; KHVATOV, Yu.A.; BURAYEV, B.K.

Industrial testing of ore pebble crushing of Krivoy Rog Basin quartzites. Gor. zhur. no.4:57-60 Ap '65. (MIRA 18:5)

1. Dnepropetrovskiy gornyy institut (for Denisenko, Karmazin, Sultanovich). 2. Novo-Krivorozhskiy gornoobogatitel'nyy kombinat (for Migutskiy, Khvatov, Burayev).

KARMAZIN, V.I.; YEGOROV, V.L.; BABESH, A.A.

Effect of preheating on the magnetic separation of rare metal containing minerals. TSvet. met. 38 no.5:14 My '65. (MIRA 18:6)

KARMAZIN, V.I., doktor tekhn. nauk; MALETSKIY, N.A.; TOVSTANOVSKIY, O.D.

Improvement in the magnetizing roasting of Kerch peninsula ores in tubular rotary furnaces. Met. i gornorud. prom. no.4:64-66 Jl-Ag '64. (MIRA 18:7)

KARMAZIN, V.I.; BEBESH, A.A.

Effect of the speed of a deposition electrode on the separation of materials. TSvet. met. 37 no.10:17-19 O '64. (MIRA 18:7)

KARMAZIN, V.I.; BEBESH, A.A.; KARASEVA, V.N.

Effect of certain factors on the amount of electric charging of minerals obtained in a corona discharge electric field. TSvet. met. 38 no.4:17-20 Ap '65.
(MIRA 18:5)

FARMAZIN, V.I.; BEBESH, A.A.; DEGTYARENKO, A.V.; ISKUMENKO, V.M.

Electrostatic separation of fine grained materials at high-speed operating conditions. Tsvet. met. 38 no.11:58-59 N '65.
(MIRA 18:11)

KARMAZIN, V.I., prof.; ROYZEN, I.D., inzh.; BINKEVICH, V.A., inzh.

Flow sheets of ore dressing plants in the Krivoy Rog iron ore and Nikopol' manganese basins. Gor. zhur. no.9:61-64 S '65. (MIRA 18:9)

1. Dnepropetrovskiy gornyy institut (for Karmazin, Royzen).
2. Pridneprovskiy sovet narodnogo khozyaystva (for Binkevich).

KARMAZIN, V.I., doktor tekhn. nauk; ROYZEN, I.D.

New method of beneficiating oxidized quartzites. Met. i gornorud. prom. no.3:58-60 My-Je '65. (MIRA 18:11)

KARMAZIN, V.P.

Roentgenokymography as a method of determination of effectiveness of therapy of silicosis with respiratory exercise. Gig. sanit., Moskva no.12:14-18 Dec 1953. (CIML 25:5)

1. Of the Institute of Labor Hygiene and Occupational Diseases of the Academy of Medical Sciences USSR.

KARMAZIN, V. P.

Dissertation: "The State of Pulmonary Respiration and Cardiac Activity in Silicosis Patients in a Roentgenokymograph." Cand Med Sci, Acad Med Sci USSR, 26 May, 54 Vechernyaya Moskva, Moscow, 13 May 54.

SO: S W 284, 26 Nov 1954

MAKARENKO, I.I., kand. med. nauk; KARMAZIN, V.P., kand. med. nauk

Talc pneumoconiosis in workers of the dusty departments of the "Kauchuk" Plant. Trudy 1-go MMI 28:107-113 '64.

(MIRA 17:11)

1. Kafedra obshchey terapii i professional'nykh zabolevaniy (zav. - deystvitel'nyy chlen AMN SSSR prof. Ye.M. Tareyev) i kafedra rentgenologii i radiologii (zav. - prof. L.D. Linden-braten) 1-go Moskovskogo ordena Lenina imeni Sechenova.

ACCESSION NR: AP3014914 S/0207/63/000/005/0003/0010

AUTHORS: Karmazin, V. P. (Moscow); Stakhanov, I. P. (Moscow)

TITLE: Calculation of the volt-ampere characteristics of a thermoelectric converter at working diffusion conditions

SOURCE: Zhurnal prikl. mekhaniki i tekhn. fiziki, no. 5, 1963, 3-10

TOPIC TAGS: thermoelectric converter electrical characteristic, thermoelectric converter volt characteristic, thermoelectric converter diffusion condition, thermoelectric converter

ABSTRACT: A cesium thermionic converter with electron mean free path l_e much less than interelectrode spacing has been considered. The interelectrode gas is assumed to be weakly ionized at 2000K. The emitted electrons and the surface contact ionized cesium ions are assumed to have a Maxwellian distribution. The plasma electron gas is also assumed to have a different temperature T_e than the cathode, whereas the ion temperature is the same as the cathode surface. Expressions for the ion and electron currents at the cathode are obtained for both negative and positive electrode potentials, and the sheath structures are discussed for $\omega \gtrsim$ where

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$$\omega = (I_0 / I_\infty) \sqrt{M/m}$$

These are substituted into the three-component diffusion equations for ions and electrons where average values are used for ion and electron temperatures, transforming the differential equations to algebraic equations and solving them in successive approximations. The volt-ampere characteristics of the cell are then determined numerically for various plasma temperatures, cathode work functions, and values of ω. Orig. art. has: 33 equations, 7 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 26Apr63 DATE ACQ: 27Nov63 ENCL: 00

SUB CODE: PH NO REF SOV: 002 OTHER: 001

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L 10611-65 EWT(1)/EWG(k)/EPA(sp)-2/EPF(n)-2/EPA(w)-2/T/EWA Pu-4/Pz-6/Pab-2/4
IJP(c)/AFWL/ESD(ga)/ESD(t) AT

ACCESSION NR: AP4045318 S/0043/64/028/009/1541/1544

AUTHOR: Karmazin, V.P.; Kasikov, I.I.; Stakhanov, I.P.

TITLE: Effect of the cathode work function on the operation of a thermoelectronic converter in the diffusion regime /Report, Tenth Conference on Cathode Electronics held in Kiev 11-18 Nov 1962/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.9, 1964, 1541-1544

TOPIC TAGS: thermoelectric converter, cesium vapor diode, work function, theoretical physics, diffusion theory

ABSTRACT: Numerical solutions of the heat conduction and diffusion equations were found for cesium vapor diodes under various conditions, and many of the results are presented graphically. Particular attention was given to the influence of the work function of the cathode. The solutions were effected by employing known or assumed values of the electron and ion temperatures in the diffusion equation to calculate the density and potential distributions, and employing the densities and potentials thus found in the heat conduction equation to calculate the temperature distributions. This process was started with the assumption of uniform temperatures and was

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continued until it converged. In order to calculate the effect of the cathode work function it is necessary to take into account the deviations from local thermodynamic equilibrium in the vicinity of the cathode (B.Ya.Moyzhes and T.Yu.Pikus,Fiz.tverdogo tela 2,756,1960). This was accomplished by assuming that the density in the neighborhood of the cathode is reduced from its equilibrium value by the factor $(1 - i/i_0)^{1/2}$, where in the case of overcompensation (i.e.,when the cathode work function exceeds the chemical potential in the plasma) i_0 and i are the cathode emission current and the diode current, respectively, and in the case of undercompensation they are the ion emission current and the ion current. It was found that the current is independent of the work function under conditions of undercompensation, but that it decreases rapidly with increasing work function under conditions of overcompensation. The work function of the cathode in the cesium vapor can be estimated from the deviations of the performance of the converter from the predictions of the equilibrium theory. The cooling effect of the electron current on the cathode was calculated, and from that the efficiency of the converter. It was found that the heat taken from the cathode by the electrons is independent of the work function except under conditions of very strong overcompensation. "The authors are deeply grateful to the late Prof. I.I.Kondrashenko for valuable discussions." Orig. art.has: 5 formulas and 6 figures.

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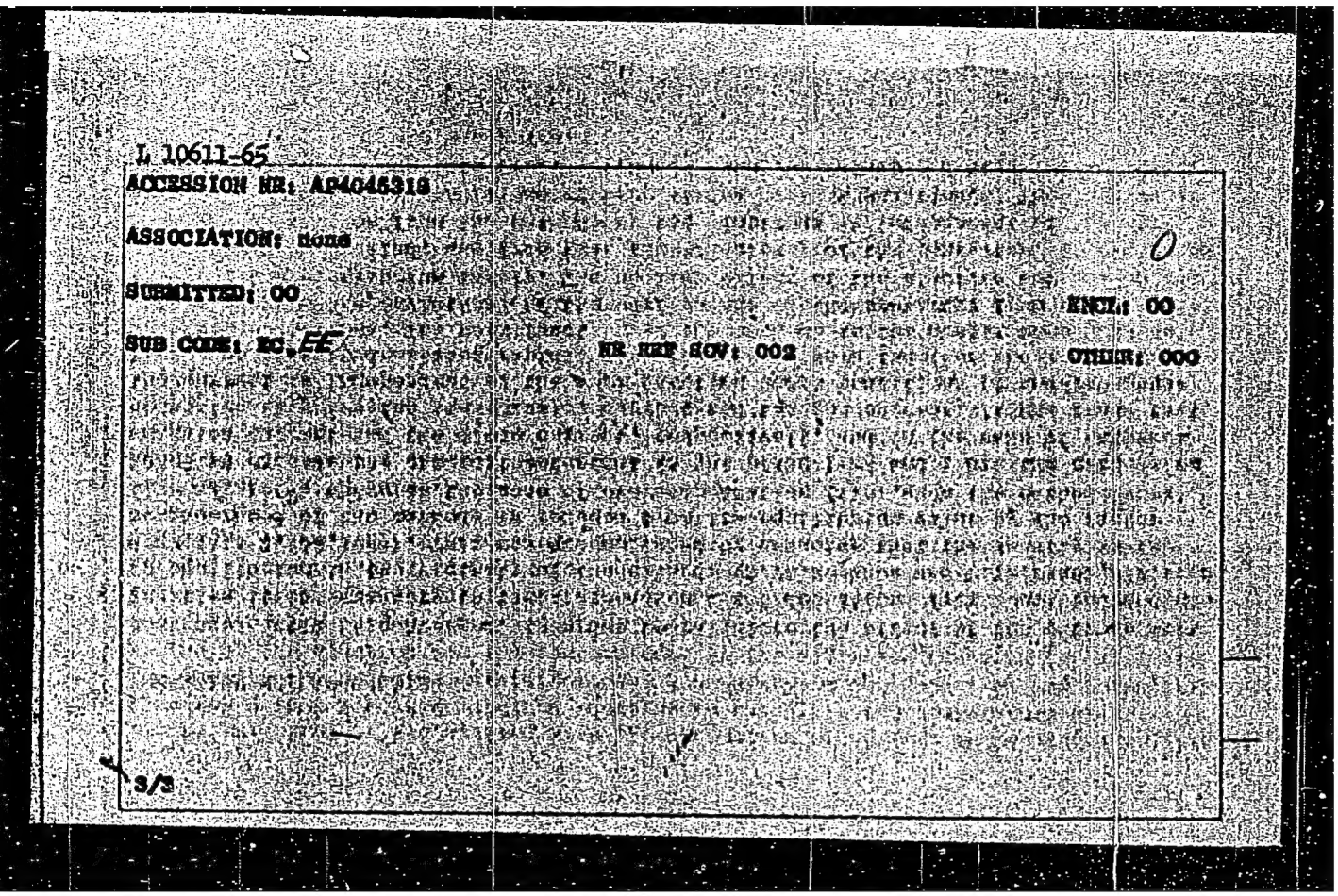

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ASSOCIATION: None

SUBMITTED: 00 ENCL: 00

SUB CODE: EC, EE NR REF SOV: 002 OTHER: 000

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MAZAYEV, P.N.; MOLOKANOV, K.P.; KONCHALOVSKAYA, N.M.; VOROPAYEV, M.M.; VOLYNSKIY, Yu.D.; KARMAZIN, V.P.; GLOTOVA, K.V.; SAMSONOVA, N.F.

Hemodynamics of the pulmonary circulation in silicosis patients based on data of angiopulmonography and catheterization of the right cardiac cavities and pulmonary artery. Vest.rent.i rad. 40 no.5:3-8 S-O '65. (MIRA 18:12)

1. Institut gigiyeny truda i profzabolevaniy AMN SSSR i Institut khirurgii imeni A.V.Vishnevskogo AMN SSSR, Moskva.

L 27528-66 EWT(d)/T IJP(c)

ACC NR: AP6007755 SOURCE CODE: UR/0021/66/000/001/0027/0032

AUTHOR: Karmazin, V. S.; Bolotin, A. S.

28
B

ORG: Odessa State University (Odes'kyy derzhavnyy universytet)

TITLE: First boundary value problem for a polyharmonic function of p-th order in a sphere

SOURCE: AN UkrRSR. Dopovidi, no. 1, 1966, 27-32

TOPIC TAGS: boundary value problem, harmonic analysis, polynomial

ABSTRACT: The authors solve the problem of finding on a sphere (V) a polyharmonic function of order p satisfying the equation $\Delta^p U = 0$, and subjected to the boundary conditions

$$\Delta^i U|_{(S)} = f_i(Q),\ Q \in (S),\ i = 0, 1, 2, \ldots p-1.$$

The functions $f_i(Q)$ are assumed to be continuous and to have finite changes on an arbitrary arc of the great circle of the spherical surface. The problem is solved with the aid of spherical functions and a system of polynomials in terms of Legendre functions. The solution is obtained in the form

$$U(M) = \sum_{k=0}^{p-1} \sum_{m=0}^{\infty} \sum_{n=-m}^{m} A_{kmn} F_m^k(r^2)\, W_m^{(n)}(M) =$$

$$= \sum_{k=0}^{p-1} \sum_{m=0}^{\infty} \left(\frac{r}{R_1}\right)^m F_m^k(r^2) \cdot \int\int_{(S)} f_k(\theta^*; \varphi^*) \left[\sum_{n=-m}^{m} \frac{Y_m^{(n)}(\theta; \varphi) \cdot Y_m^{(n)}(\theta^*; \varphi^*)}{\|Y_m^{(n)}\|^2} \right] dS$$

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